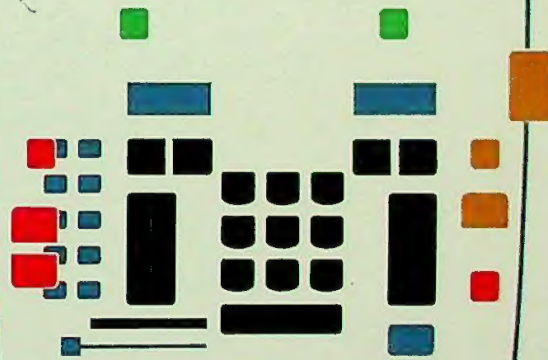
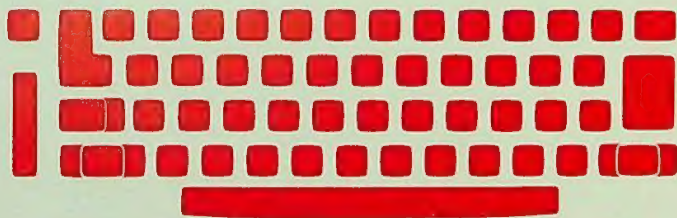


X1) 64 / Pubs. Bof

Rec'd 4/5/68

*from the desk of ---  
Louis J. Perlstein*



**ADDO**



## CONTENTS

---

Introduction	page 1—4
Addo, history and development	5—7
Basic features of Addo-X machines	8
Addo-X calculating machines	
Addo-X adding machines	10—13
Addo-X printing calculators	14—15
Addo-X receipting machines, Addo-X cash registers	16
Addo-X with wide carriage	17—19
Addo accounting	
The modern accounting method	22—23
Addo-X accounting machines	24—25
Advantages offered by Addo-X accounting machines	26
Addo data processing	
Addo commercial data processing	28—31
Addo industrial data processing	32—33
Advantages offered by Addo data processing	34
Addo service and quality control	
World famous Addo service	36—37
Production and inspection: a picture sequence	38—44
Swedish beauties and Swedish office machines	46



## The 1960's — a dynamic decade

Business upswings, high-pulsed intercommunication, growing production of top-quality goods and vastly expanded service organizations typify today's commercial and industrial life.

Shorter work weeks, stiffer competition and tighter profit squeezes are following in the footsteps of specialization and differentiation. These in turn lead to new and more severe demands on office personnel and administrators. The need for data handling expands with every passing day; data that is growing tremendously in volume and must be handled and processed at constantly increasing speeds. Numerical processes and highly developed organizations have virtually taken over today's industrial community.

Efficient administration is absolutely essential to the modern community, but the costs of such administration are constantly rising. If we are to keep abreast of new developments, there is an urgent need for the rationalization of office routines so that our organizations can meet the growing needs of the entire business community. The measures needed to achieve such rationalization need be neither drastic nor costly; simple changes are often very effective. The general revision of existing routines is one procedure which can lead to added efficiency. Others include the planning of stimulating the office atmosphere which in turn fosters efficient work habits, the replacement of old-fashioned machines with up-to-date equipment and the like.

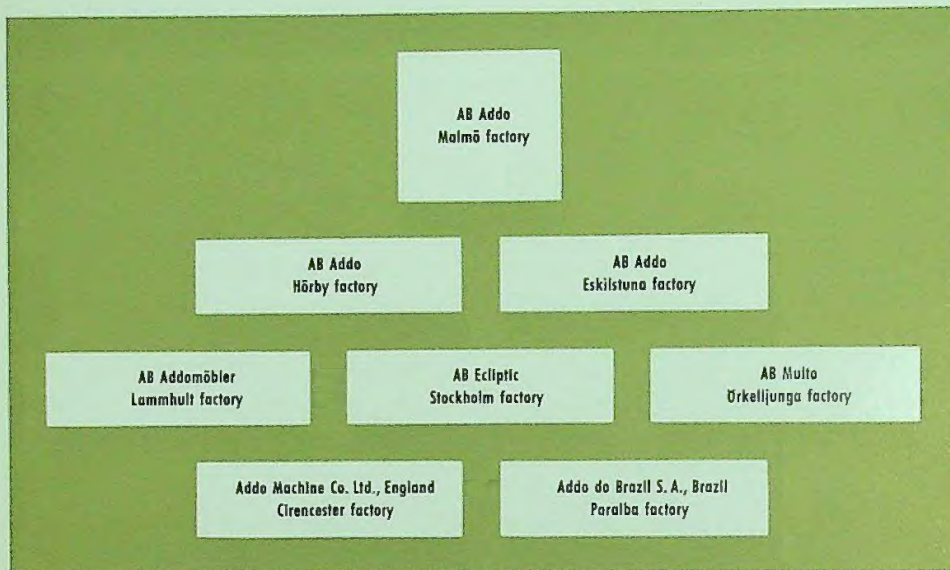
Cover, front:

Same symmetric keyboard on all Addo-X — an Addo exclusive for fast, accurate figurework.

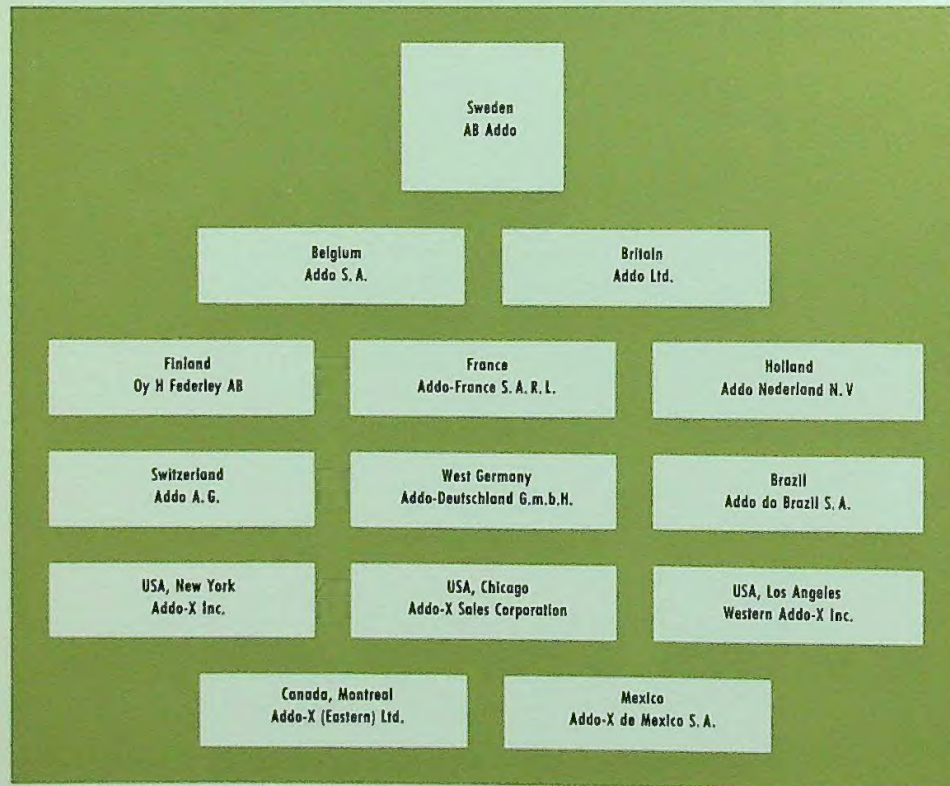
Cover, back:

Handsome styling and numerous technical refinements characterize the new Addo models.





## ADDO GROUP PRODUCTION UNITS



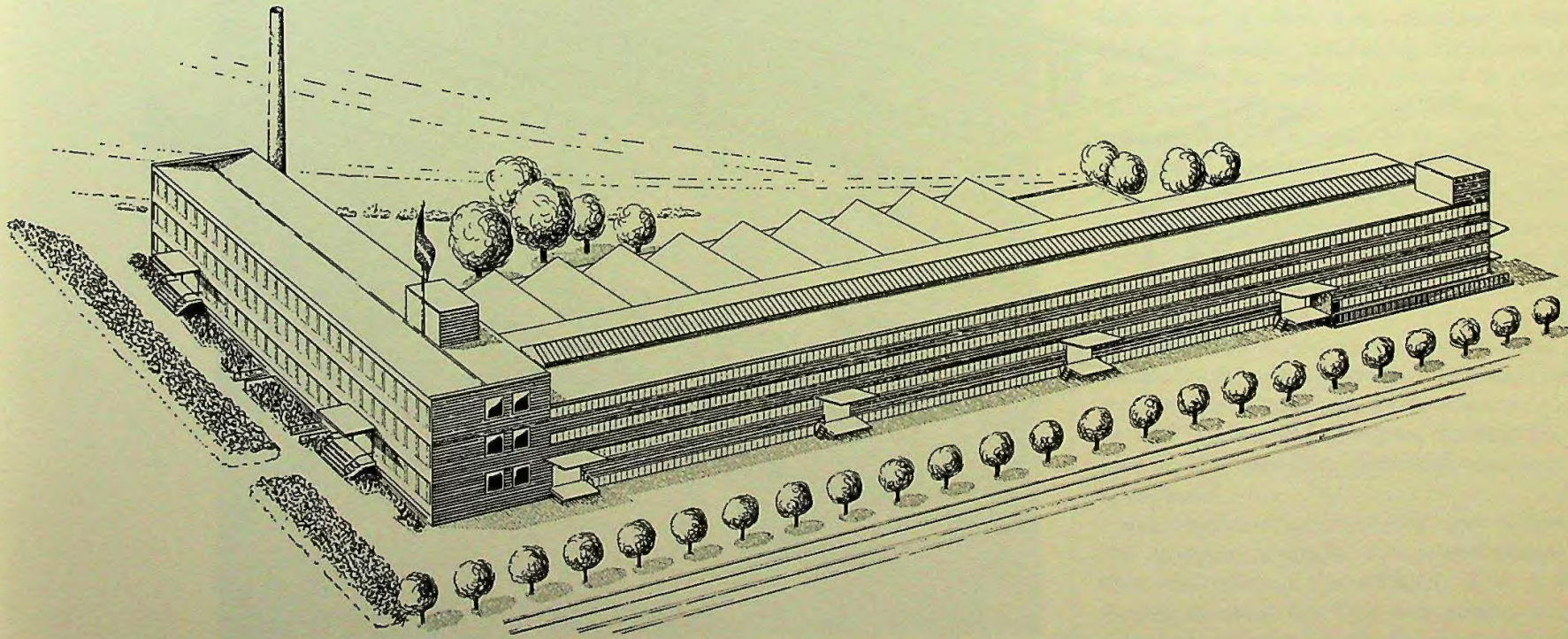
## ADDO GROUP SALES UNITS



**AB ADDO is one of Europe's major manufacturers of adding machines, printing calculators, accounting machines and equipment for automatic data processing. The company has eight factories, six in Sweden and one each in Britain and Brazil. The Addo Group employs about 3,500 people.**

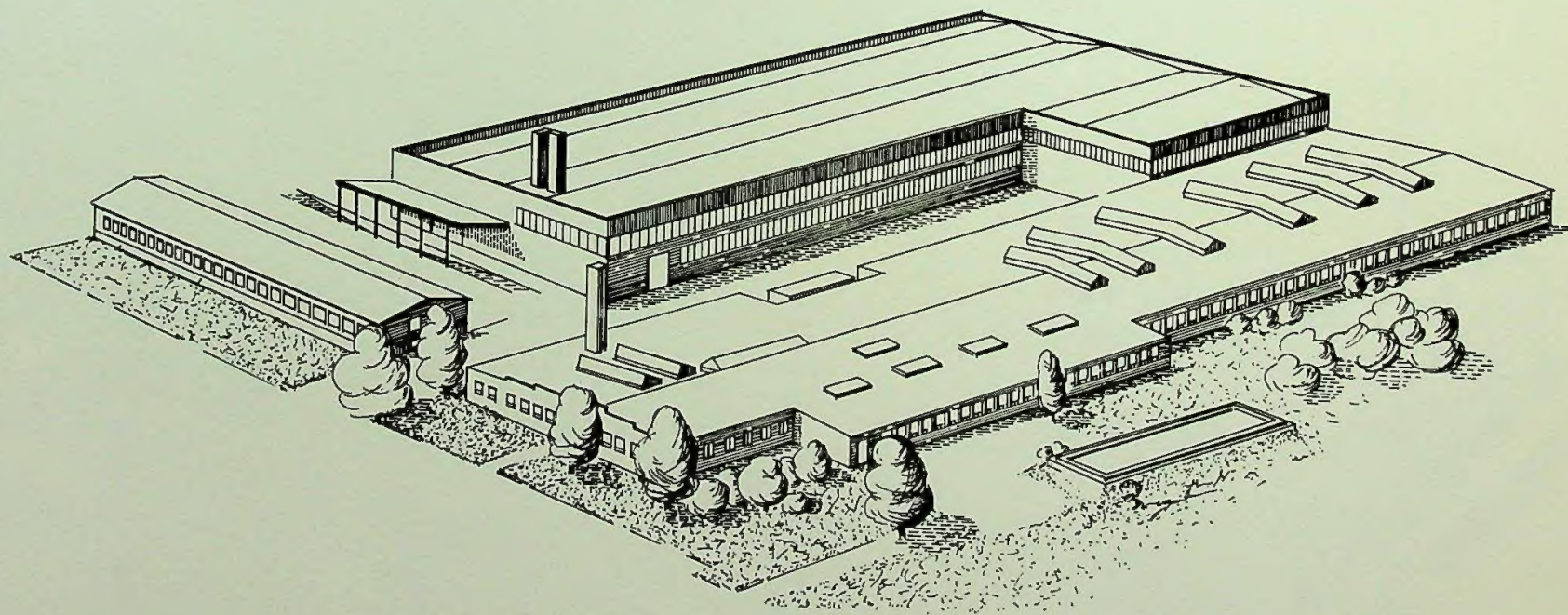
**Administrative headquarters of the Group are located in Malmö, where the largest Addo factory is also sited. Employing 1,600 persons, it is the city's second largest place of work.**

**Illustrated is a bird's-eye view of part of the new factory in Malmö.**

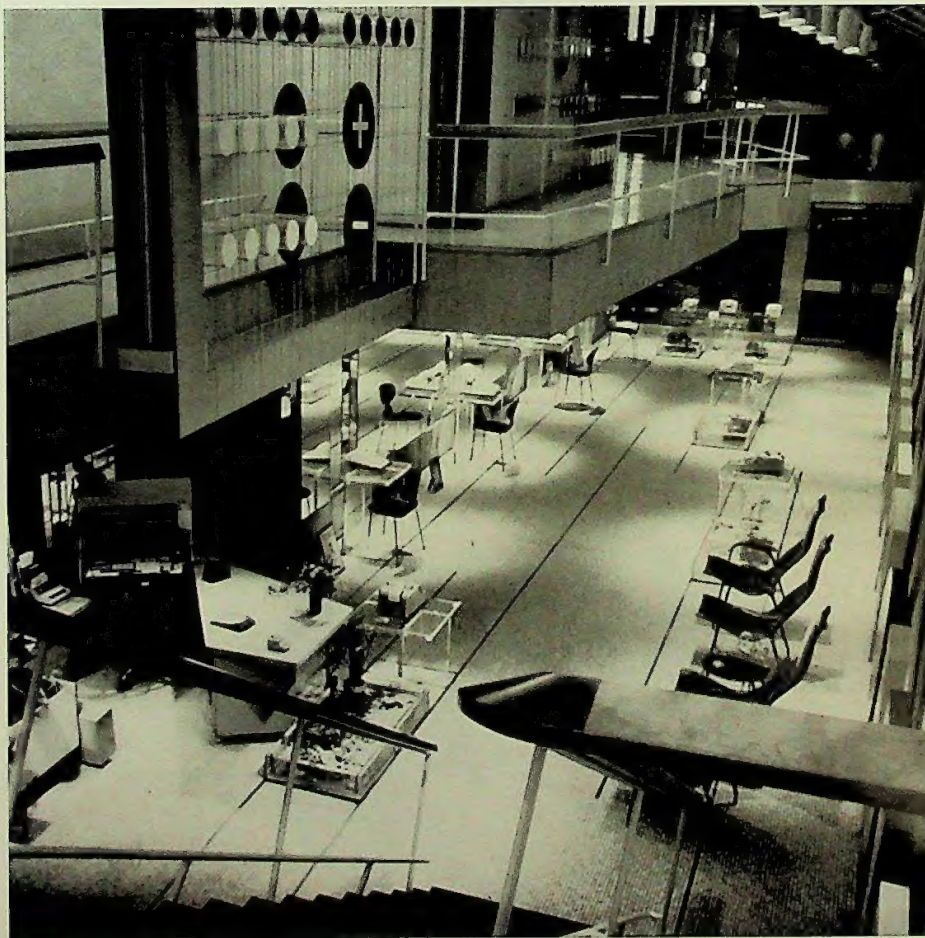




Situated at Örskelljunga in northwest Skåne is the Addo Group's second largest factory. Adding machines (manual and electric) and a range of products for automatic data processing are manufactured here.







Addo's biggest export market is the United States. Addo-X Incorporated, 300 Park Avenue, New York, presents Swedish quality products in an exclusive setting by Swedish architect Hans Lindblom.

For nearly half a century Addo has been creating office equipment designed to meet the growing range of office needs. Addo-X adding machines, accounting machines and data processing machines dominate the Swedish market. What's more, more than 80 % of Addo's machines are sold abroad. Addo's prominent position as a high-volume exporter of office equipment is evidenced by the fact that Addo-X calculating machines are simplifying the daily tasks of personnel in many thousands of offices scattered throughout all of the world's continents. Wherever you go — from the Arctic Circle in the North to the Cape of Good Hope in the South; from California in the West to New Zealand in the East — Addo-X adds up to unfailing reliability, marvelous versatility, high speed, comfort and last but not least, outstanding service.

The history of the Addo corporation has much in common with those of other major Swedish export firms. Foresighted audacity, unceasing insistence on top quality and production methods attuned to future trends have combined to propel a small company to a position of international prominence in the field of office mechanization and automation.

The company was founded in 1918 on a very small scale. The first Addo product was a simple adding device operated manually with a steel pin. This adding machine was given the very appropriate name of Addo (I add in Latin).

In 1926 it was joined by the second Addo product which boasted a large keyboard and was soon widely accepted by banks and insurance companies.

In 1927 Addo invaded export markets for the first time, and in 1928 the first electrical keyboard machine was introduced.

Annual turnover reached SKr one million in 1936 when the company brought out a sensational new product that was dubbed the Addo-X. (The X represents the Roman numeral 10). This new adding machine featured an extraordinarily simple 10-key keyboard.

The Addo-X was a prodigious success, its conquests extending throughout the entire world. The entire world-famous Addo-X line of office equipment was then de-



veloped from the original Addo-X. This line includes shuttle carriage machines, printing calculators, accounting machines, special machines, etc. Millions of these machines have contributed immeasurably to the simplification of office work throughout the world.

Moreover, the Addo-X has become a goodwill ambassador for Swedish inventiveness and craftsmanship. It has emphasized the propensity of Swedish industry for top quality products and has been privileged to represent Swedish high-precision production techniques at their best.

In the mid-1950's when office automation first became economically feasible, Addo set in motion an extensive developmental program that led to a number of Addo ADP products. Today, leading automation experts rank these new Addo products as highly advanced within their various specialized fields.

This new Addo ADP equipment makes it possible for every company to introduce automation at extraordinarily reasonable costs, a step which will culminate long-term efforts to rationalize the time-consuming office routines that make such heavy demands on personnel. Addo products are manufactured at 8 factories. Six are in Sweden, one is located in Britain and one in Brazil. Production at the Addo factories is spread out as follows:

Malmö: main factory for calculators, accounting machines and ADP equipment.

Hörby: carriages for standard and special machines.

Örkelljunga: adding machines (manual and electric) and some ADP equipment.

Lammhult: office furniture.

Eskilstuna: receipting machines and tools.

Stockholm: electric motors.

Cirencester: machines for British currency and decimal systems. Rio de Janeiro: steel furniture.

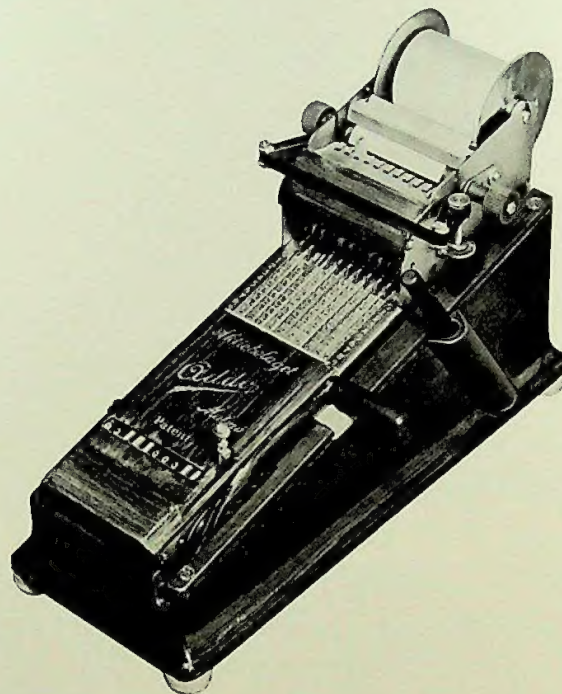
Some sixty Swedish branch offices handle domestic sales. Addo subsidiaries in Belgium, Britain, Finland, France, Germany, Holland, Switzerland, Brazil and Mexico handle distribution for international markets together with thousands of retailers scattered throughout some 125 countries.

## Addo – an international leader in office equipment



The sun never sets on world-wide Addo operations. Each dot on the map represents an Addo general agent.





### Wide selection assures correct choice

The extraordinary versatility of Addo products enables them to cover the full spectrum of office requirements. This catalogue provides you with useful tips on how to select the best type of equipment in order to take full advantage of valuable office personnel. Judicious selection of easy-to-operate Addo equipment will stimulate office morale and bring output to a new, high level. Never before has the mechanization/automation of office routines been so economically advantageous as it is today.

### Simplicity — a vital basic concept

An adding machine, accounting machine, tape punch etc. must be simple enough for it to be operated by anyone — at once and without special training. This concept has been incorporated into the entire line of Addo equipment.

### The Addo-X line

simply can't be matched when it comes to **simple, reliable** operation.

Moreover, personnel can switch from one type of Addo machine to another without appreciable lost time or outlay for retraining. Example: a girl who is familiar with the regular adding machine can quickly change over to more complicated ADP accounting routines such as posting general ledgers, personal ledgers, inventories and payrolls while simultaneously preparing punched tapes and/or punched cards.

These two both share a common trait: **quality — Swedish quality.** A 1923 Addo and a 1966 Addo-X. Sweeping changes have been made, but the quality remains the same. **Quality — the constant factor.**



**Only the ADDO-X offers all these advantages**

Modern functional styling — elegance in every line, attractive, uncluttered surfaces, finished in decorator pastels.

Symmetrical keyboard assures superb operator/machine collaboration. Ideal for touch-method calculation.

Correct bookkeeping notation (all plus entries printed in black — negative entries in red) for at-a-glance visibility. The paper advances an extra line after every total enabling you to distinguish readily between each individual calculation.

Special key interlock — an extra guarantee for high-speed accuracy.

Single-purpose control keys. One key — one function. Minimizes operator errors to assure most simple, most accurate figure work.

Touch is feather-light yet distinct. Perfect, positive response.

High-speed starting assures faster, more rhythmic operation.

Automatic keyboard clearing — eliminates one operation per calculation.

Silent operation enhances office efficiency. The rubber-mounted precision-made mechanism is provided with effective sound insulation.

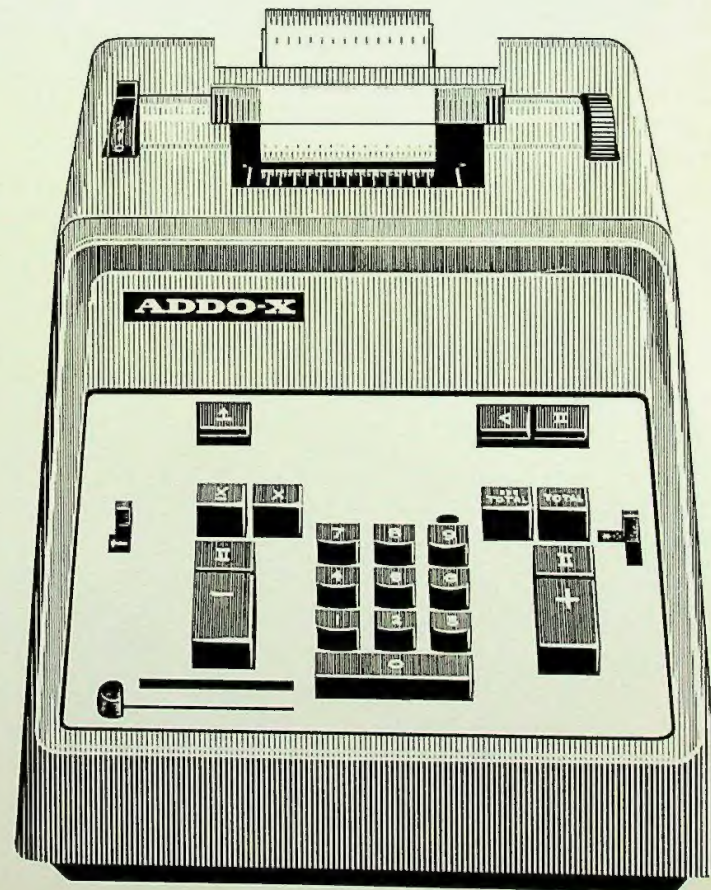
Attractive, easily-read print-out slip. Logical symbols identify the various functions.

Asynchronous motor provided with suppressor that eliminates interference with TV, radar and other electric equipment. The motor requires virtually no maintenance.

Ribbon can be changed and new roll of paper inserted quickly and simply.

Rubber feet grip even the most glossy surfaces firmly.

## **ADDO-X**





# ADDO-X CALCULATING MACHINES



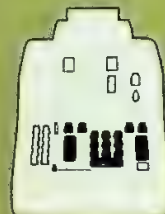
The symmetrical keyboard is a basic design feature of all Addo-machines. Operators can switch in minutes from one Addo to another, however, different, feel at home right away, even on an advanced Addo for data processing.

The symmetrical keyboard fits the right hand as well as the left. Makes speed and reliability certain by utilizing natural movements of the hand — the touch method. Speed and reliability plus the ability to switch rapidly between simple and more complicated machines — that adds up to economy.

## Same symmetrical keyboard on all Addo-X machines



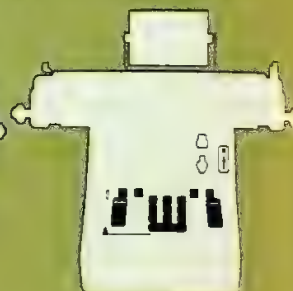
Addo-X class 300,  
adding machine



Addo-X class 4000,  
printing calculator



Addo-X class 7000,  
accounting machine



Addo-X for ADP

### ADDO-X adding machines

Addition, subtraction and multiplication are daily chores which must be performed in most offices. By using the correct machine for every job, efficiency can be vastly improved and substantial time savings can be realized in this sector of office work. The Addo line of adding machines — one of the most extensive in the field — has been created with this in mind.

Addo offers machines with widely varying capacities for either British currency or decimal systems, with or without credit balance, with one or two registers, with semi-automatic or fully automatic multiplication, fully automatic printing division etc.

Addo-X ... the right machine for the job — from the one-man enterprise to the largest industrial firms.





Addo-X — the unchallenged figurework champion for the modern office.



The **Addo-X model 353** is a high-speed version of the classic, world-renowned Addo-X which incorporates the most recent design advances. Equipped with device for multiplication (Step-O-Matic), credit balance, non-add etc.  
Setting capacity: 12 digits. Totalling capacity: 13 digits.

Also available with 8/9 digit capacity (**model 355**); and 10/11 digit capacity (**model 351**).

The **Addo-X model 2353** is a multiplying adding machine that has been nicknamed the "percentage wizard". This high quality machine has already established itself firmly as a best-seller.  
Outstanding features:

Fully automatic super-short-cut multiplication. You can multiply by 889 just as fast as by 111.

Keyboard memory — for percentage calculations or constant factor work. The machine presents the discount followed directly by the net amount with split-second speed; a single operation suffices (you don't have to reset the gross amount).

Non-print with multiplication. If desired, the machine prints only the final product. This saves both tape and ribbon.

Capacity: 12/13 digits.



Addo-X 353



Addo-X 2353





Addo-X 331



Addo-X 653

The **Addo-X model 154** is a handy, high-speed electric adder. Priced very reasonably, it is equipped with most of the best features of the "larger" machines. This lightweight, compact machine can easily be put to work where it is most needed — it's the ideal auxiliary machine. Capacity: 9/10 digits.

Also available with 8/8 capacity (**model 152**).

The **Addo-X model 331** is a highly versatile hand machine that can be used by everyone — from clerk to executive. Equipped with credit balance, non-add, repeat key etc. Capacity: 10/11 digits.

The **Addo-X model 653** is a high-speed adding machine built to the most exacting precision standards to provide top-class performance. Two registers (both with credit balance) assure flexible operation for maximum convenience and efficiency. Both registers can be used individually (operates as duplex adding machine) or in combination with each other (operates as accumulating-register machine with grand total). Positive or negative calculation in either register is controlled directly via the split plus and minus bars. Capacity: 12/13 digits.



## ADDO-X printing calculators

A superb range of performance enables Addo-X calculators to replace both adding machines and non-printing calculators. Result: added savings thanks to reduced initial costs plus faster, more reliable results thanks to the fact that the entire job is concentrated on a SINGLE machine. Since the machine prints a record of all work performed you gain these advantages:

**The tape** shows each step of the calculation. Personal notation is eliminated — along with the risk of copying errors.

**The tape** can easily be checked — by the operator and by others.

**The tape** is easily filed for future reference thus eliminating the need for subsequent checking.

**The tape** can be used directly — without being copied — as source material for invoicing, etc. Practical tip: attach it directly to the voucher.

**The tape** shows directly how far the calculation was carried. Work can be interrupted without difficulty.

**The tape** enables figure-work routines to be carried out with greater speed and accuracy.

**The tape** eliminates need of rerunning calculations to check a result.



Addo-X 3353





Addo-X 4653

The **Addo-X model 4653** is the only Swedish-made printing calculator offering fully automatic division. The dividend and divisor are printed **immediately** (a valuable control feature), and the answer is **always** expressed as a decimal to the maximum number of correct decimal places to assure the greatest possible accuracy.

Super-short-cut multiplication, both positive and negative. Prints factors and product for at-a-glance readability — nothing else. Special discount and mark-up keys. Keyboard memory for calculating percentages and constant factor work. Possibility of calculating with constant addend or subtrahend. Decimal point positioning — a special Addo feature.

Two separate registers (both with credit balance). Both registers can be used individually (operates as duplex machine) or in combination with each other (operates as accumulating — register machine with grand total). Capacity: 12/13 digits.

A one-register version of the 4000 class Addo-X is also available (**model 4353**).

The **Addo-X model 3653** offers the same outstanding features as model 4653 with the exception of division.

The 3653 is also available with a single register (**model 3353**).



### ADDO-X receipting machines

These easy-to-operate machines are intended for all types of receipting routines in commercial and savings banks and in every company which records receipts and expenditures.

Receipting machines are available in several versions. Some are purely receipting machines; others are combined adding and receipting machines.

Double locking and an item counter assure adequate security. On ingoing or outgoing vouchers the machine prints the amount preceded by protective script (full row of zeros) as well as the date, a serial number, and designations for the bank and cash desk. Thanks to these various security arrangements the machine is ideal for cash desks manned by a single teller.

Addo-X receipting machines are also available with electric output to a separate flatbed printer for bank books. The two units are cable-connected, thus enabling them to be positioned conveniently regardless of the layout of the cash desk.



Addo-X 801





### **ADD-O-X with wide carriage — a practical all-round machine**

Are you still doing figure work and tabular work on a typewriter? Addo offers you machines designed especially for these chores. They not only simplify column routines — they perform them many times faster and far more reliably.

The Addo-X with wide carriage is available with manual and automatic tabulation and with fully automatic two or three-column shuttling.

The Addo-X method offers a host of advantages:

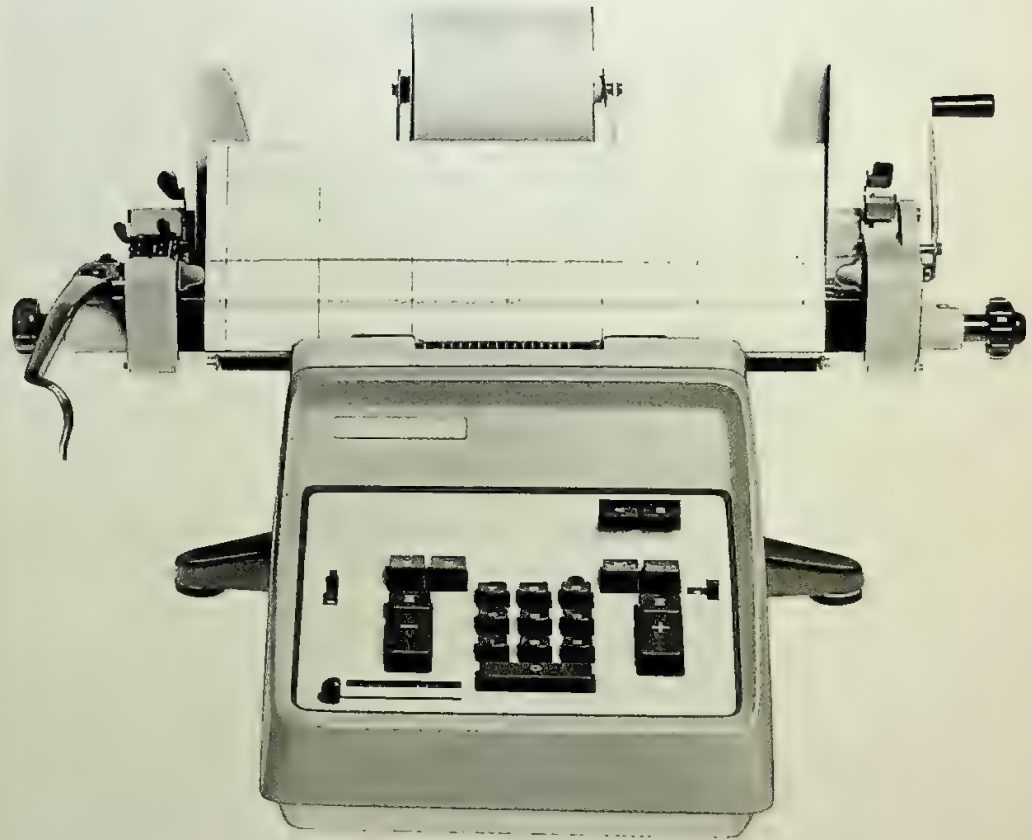
- When a typist types figures she must pay attention to the number of digits in each number (decimal tabulation). The Addo-X accomplishes this automatically.
- Calculation and print-out are accomplished simultaneously, thus assuring unerring accuracy.
- A number that is set incorrectly can be easily corrected before it is printed.
- Keyboard memory for repetition of amounts etc. (on shuttle carriage models).
- Simple settings for columnar tabulation.
- Fast conversion for use as ordinary adding machine. Step-O-Matic for multiplication.

**Addo-X with wide carriage, the ideal machine for every kind of column and tabular work.**



The **Addo-X model 353-15** has a wide carriage that can be moved manually among an arbitrary number of columns. **Model 353-20** is tabulated in the same way as a typewriter and is provided with an injector for high-speed insertion of business forms. Both models are equipped with a register with credit balance. Capacity: 12/13 digits.

The **Addo-X model 653-20** is provided with two complete, separate registers, both with credit balance. Positive or negative calculation in each of the registers is controlled conveniently from the split plus and minus bars. The registers can be joined to provide a grand total. Capacity: 12/13 digits. Other features are the same as on model 353-20.



Addo-X 653-20





Addo-X 653-32

The Addo-X models 353-32 and 353-33 are fully automatic one-register shuttle carriage machines with credit balance. Two or three-column shuttling. Three standard programs. Changeover among the various programs is accomplished conveniently directly from the keyboard. Display window indicates the type of operation column by column. Capacity: 12/13 digits.

The Addo-X models 653-32 and 653-33 with automatic two and three-column shuttling can total two columns simultaneously, and take the grand total of the two columns automatically. Four standard programs. Changeover among the various programs is accomplished conveniently from the keyboard. Display window indicates the type of operation in each column. Both models are provided with two complete, separate registers. Capacity: 12/13 digits. Can also be used both as a duplex adding machine and an accumulating-register machine with grand total.



ADDO-X  
ADDO-X  
**ADDO-X**



Addo-X — always figures ahead.  
With its speed and accuracy, Addo-X is an invaluable aid to everyday figurework for millions of persons throughout the world.

ADDO ACCOUNTING



Addo accounting is widely accepted as a basic aspect of modern account-keeping. This holds true not only in Sweden where the Addo-X has dominated machine accounting systems for more than 20 years (more than 30,000 machines in service), but in offices throughout the world as well.

The machines that provide the instrumentation used to implement Addo accounting were developed directly from the familiar, time-tested Addo-X machine, already in use throughout the world. The first models designed specifically for accounting comprised the class 5000 machines which were introduced in 1942. They represented somewhat of a revolution in account-keeping techniques. It was the first Swedish-made accounting machine with a simple 10-key keyboard, an outstanding innovation that led directly to the Addomation of accounting procedures in offices throughout Sweden.

Addo has made good use of this solid foundation to build up an extensive line of equipment, and today the company manufactures some 15 different models which are automated to different degrees. Machines are available with or without alphabetical characters, with one or more registers, for calculation based on the pound sterling or decimal systems, with rear feed or front feed, etc.

Flexibility is perhaps the most outstanding attribute of Addomated accounting. It can be adapted to different tasks within different fields of endeavor with astonishing ease. The nucleus of the system is, of course, the Addo machine; custom-built systems can be arranged around this nucleus to provide every customer with routines that guarantee maximum economy and efficiency.

The development of accounting machines which feed information electrically to card or tape punches has made it possible for small and medium-sized firms to take advantage of modern data processing techniques. These machines produce punched tapes/cards as simultaneous by-products when preparing accounts — general ledgers, personal ledgers, inventories etc. These by-products can be processed at high speeds by computers to provide sales statistics, production statistics, etc. See section entitled "Addo data processing", page 27.



In Swedish business schools machine accounting is synonymous with Addo accounting.

**Addo accounting — simplicity and security  
systemized.**





**Addo-X model 7653-82** is an ultra-modern accounting machine which is in a class apart when it comes to styling, performance, and design. Built-in electrical components provide extreme versatility of function while the electromagnetic control mechanism reduces mechanical noise to comfortably low levels.

Two complete, separate registers. Setting capacity 12. Totaling capacity 13. Complete inter-register transfer, dynamic memory, and keyboard memory. Automatic column skip, balance skip, and register II skip. Sub-reverse function for both registers, etc.

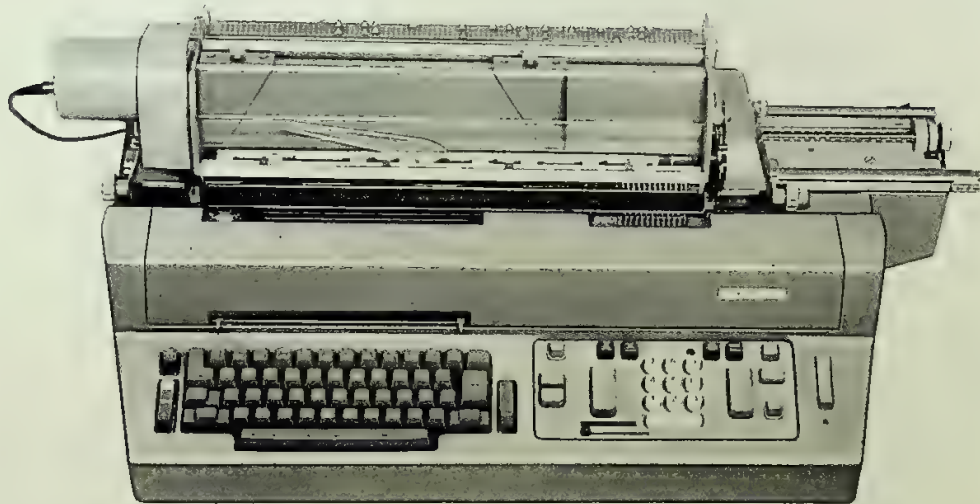
Automatic insertion of forms is carried out with speedy precision by the Aut-O-Feed device (automatic feed and ingenious line-finder mechanism).

Also available with four other carriage models:

- 62, front feed (without Aut-O-Feed device),
- 72, manual Aut-O-Feed,
- 76, manual dual Aut-O-Feed,
- 86, electric dual Aut-O-Feed.



Addo-X 7653-82



Addo-X 8341-82

**Addo-X model 8341-82** is an accounting machine with a profusion of built-in aids. All of the bookkeeping and typing functions can now be performed on one and the same machine.

Secrets of the efficiency and astonishing versatility of this machine include an electric line-finder, a practical universal key, a keyboard memory and a four-sided program selector for four entirely different accounting operations. (Program changing is effected by rotating the selector a quarter turn.)

The machine is also equipped with an electric typewriter — the well-known I.B.M. Model 72 with the "golf-ball" typing head.

Despite its versatile performance, the Addo-X 8000 is as easy to operate as an ordinary adding machine. With the use of only one motor bar called the universal key, the operator controls the entire recording procedure. And, like all Addo-X machines, the accounting section features Addo's symmetrical instant-action keyboard. Automatic insertion of forms is carried out with speedy precision by the Aut-O-Feed device (automatic feed and ingenious line-finder mechanism).

Also available with two other carriage models:

- 62, front feed (without Aut-O-Feed device),
- 86, electric dual Aut-O-Feed).



## **Addo-X accounting machine — incorporating a host of built-in features**

Highly sophisticated automation reduces manual operations to the bare minimum. Operation is amazingly simple; accounting chores can be carried out faster and with added accuracy. Here's why:

### **Automatic form handling (Auto-O-Feed injection and ejection)**

The Aut-O-Feed unit, available in manual and electric versions, inserts one or more forms and automatically brings them to the correct line, thus enabling information to be copied onto the underlying journal. While the line finder is bringing the form to the right line the machine is simultaneously making the calculation and printing the amount set on the keyboard. This all-in-one operation is a feature offered exclusively by the Addo-X machines in this price class.

### **Flexible four-sided program selector**

Each selector contains four different programs — another exclusive Addo-X feature. And you change programs faster than you say "Addo-X 7000". If a routine must be changed, the selector can be reprogrammed with ease — in fact, reprogramming is easier than on any other machine.

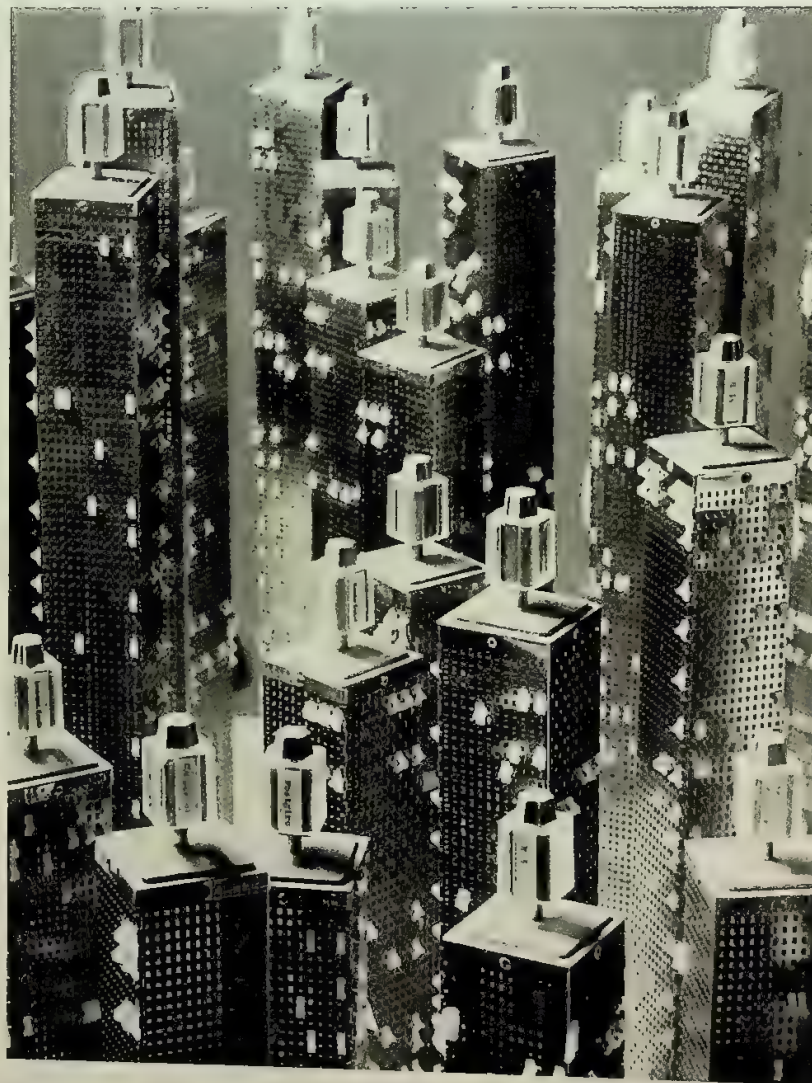
If you have more than four routines, all you need is an extra selector — your Addo-X applications are unlimited.

### **Universal key**

In addition to the numeral keys, only a single key is needed to perform the various Addo accounting functions. Result: accounting work becomes child's play with the Addo-X. The machine decides what to do.

### **Simple, symmetric keyboard**

The same symmetrical 10-key keyboard is used on all Addo-X models. Personnel can be moved freely from one Addo-X model to another without time-consuming and expensive retraining. An extra advantage is the fact that it's so easy to find people who are familiar with the Addo-X. Millions of Addo-X machines are in use the world over.



Thanks to the easily exchangeable program selector the possibilities offered by the Addo-X are virtually unlimited.

ADDO DATA PROCESSING



ADDO ADP equipment bridges the gap between conventional mechanical calculating machines and electronic data processing equipment. Addo automation is pioneering new methods by which all branches of commerce and industry can convert economically to automatic data processing.

ADDO ADP products include:

Input machines (electromagnetic input)

Numerical/alphanumerical output machines (electromechanical output)

Combined input and output machines.

Card programmed tape punches for connection to Addo-X output machines.

Input tape punches.

Link units for connecting card punches to Addo-X output machines.

Electronic check digit verifier.

Paper Tape reader for connection to Addo-X input machines.

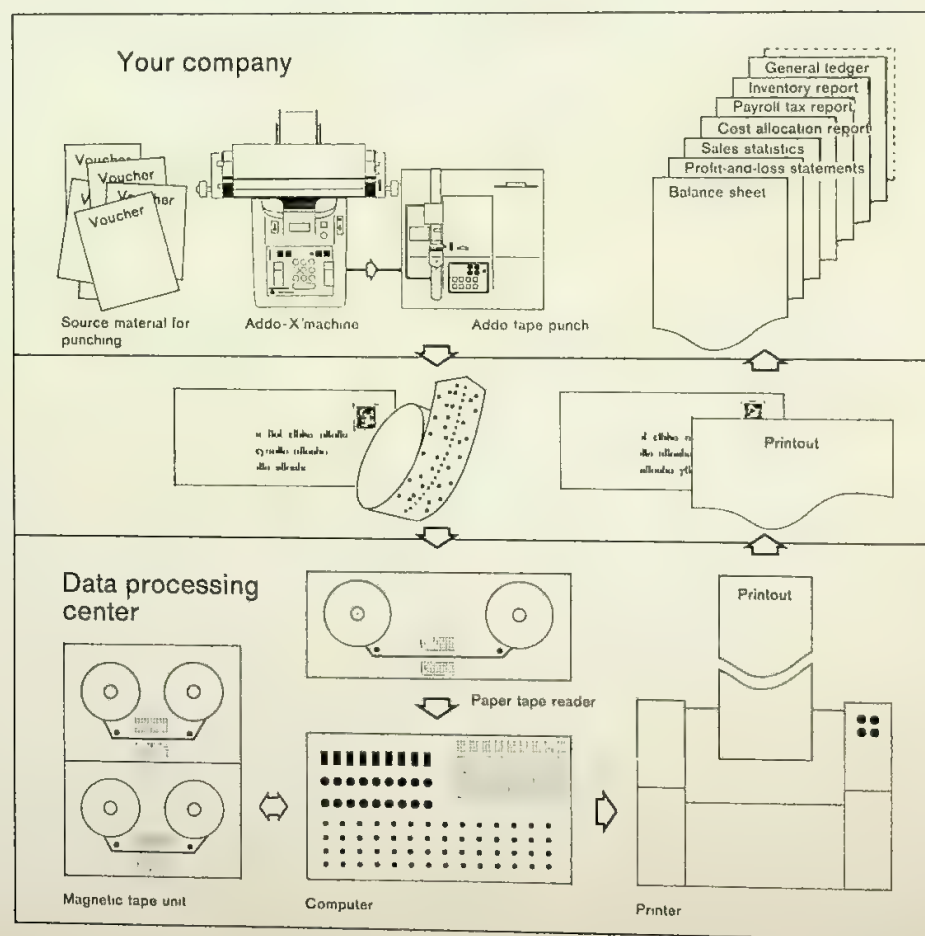
Punch head mechanisms.

Paper tape reader mechanisms.

Control units (program card readers).

ADDO ADP machines are of interest to **all** companies. Even small and medium-sized firms can profit from the vast resources now at their disposal thanks to punched-card and data processing centers. Every company can use its own Addo ADP equipment to produce punched tapes or cards as by-products of regular accounting and calculating work. All basic material such as invoices, original accounting slips, etc. can remain on company premises, an arrangement which offers immense advantages.

Please request our special catalogues for further information about Addo ADP.





Office automation is no longer the prerogative of giant corporations. With Addo ADP equipment, companies of any size can at last introduce automation at extremely low cost to handle time consuming routine office work.



## Addo card programmed tape punch

An all-round item of equipment which meets sophisticated ADP demands. This punch is the only one on the market controlled by an easily replaceable program card. Result: unmatched flexibility and reliability. The punch is fully programmable, i.e. it can be quickly converted to accept all code systems and tape widths in general usage.

## New program card — new routine

Changeover from one work routine to another is accomplished in an instant. All you do is replace the program card, thus providing the operator with an entirely "new" machine ready to start work immediately on new assignments.

The program card controls the operation of the basic unit and "edits" the punched tape. It checks to see that the operator follows the prepared routine correctly. If she should make a mistake the keyboard is locked and the punch stops.

## Parity check

Extra equipment that provides a parity check is available. The parity check determines whether there is an odd or even number of punched holes in each code combination while making certain that they comply with the requirements of the code. An error trips an alarm signal and the machine system is blocked until the operator carries out the corrective routine, thus guaranteeing a correctly edited tape.



Addo card programmed tape punch



Addo program card



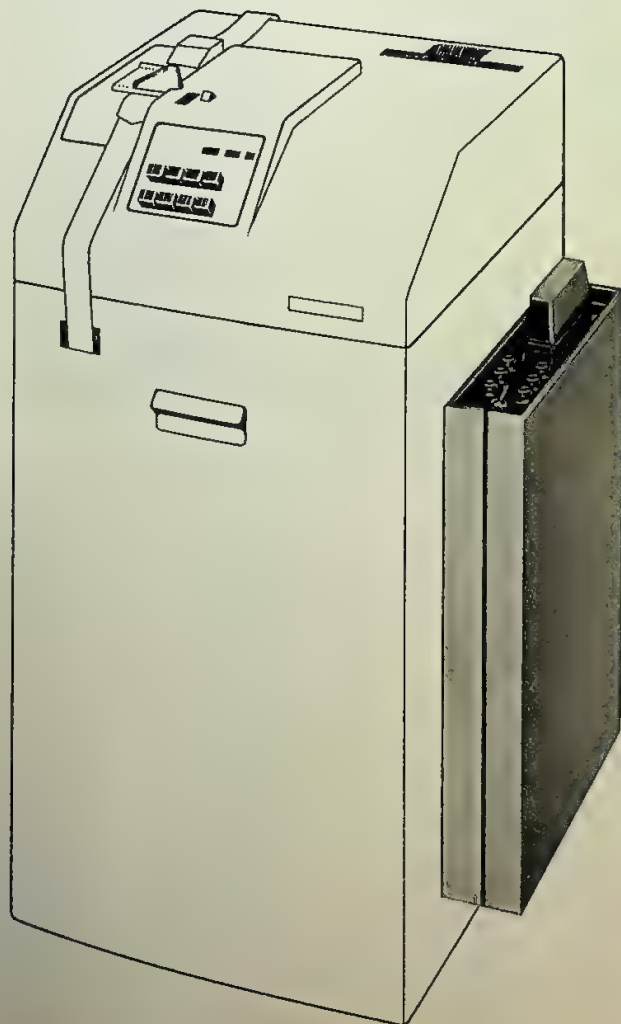
Addo tape reader

### Addo tape reader

The Addo tape reader reads numerical data in 5, 6, 7 or 8 channel tapes or in edge-punched cards and transfers this data to an Addo-X machine with electromagnetic input.

### Addo electronic check digit verifier

The electronic check digit verifier takes only 50 milliseconds before punching to check the accuracy of a 10-digit number that has been set up. The check digit verifier is completely flexible with regard to moduli and weightings. This equipment enjoys its widest application within the field of banking where there is a stringent demand for unerring controls and unfailing reliability. However, it is equally ideal for other applications such as checking account numbers, serial numbers and reference numbers.



Addo electronic check digit verifier

### Addo link unit

The punching and verification of punched cards by conventional methods often bottlenecks data processing systems. An Addo-X basic unit which is connected to a card punch via the Addo link unit provides an ingenious and inexpensive solution to this problem.

One outstanding advantage: punched cards are obtained as a simultaneous by-product as the Addo-X machine prints the results — the time-consuming process of manual punching is eliminated. The calculating unit of the Addo-X can be used to accumulate information, thus making key verification superfluous and freeing punch operators for other tasks.



## Addo records industrial and scientific data

The automatic recording of values obtained from pulse-transmitting instruments (scales, thermometers, pressure gauges, volume gauges, radioactivity detectors, humidity recorders, etc.) is now being widely entrusted to Addo-X adding machines, shuttle carriage machines and accounting machines with electromagnetic input. When this equipment is connected to industrial scales, for example, the readings are transmitted via a cable to the Addo-X machine which prints them on the desired document.

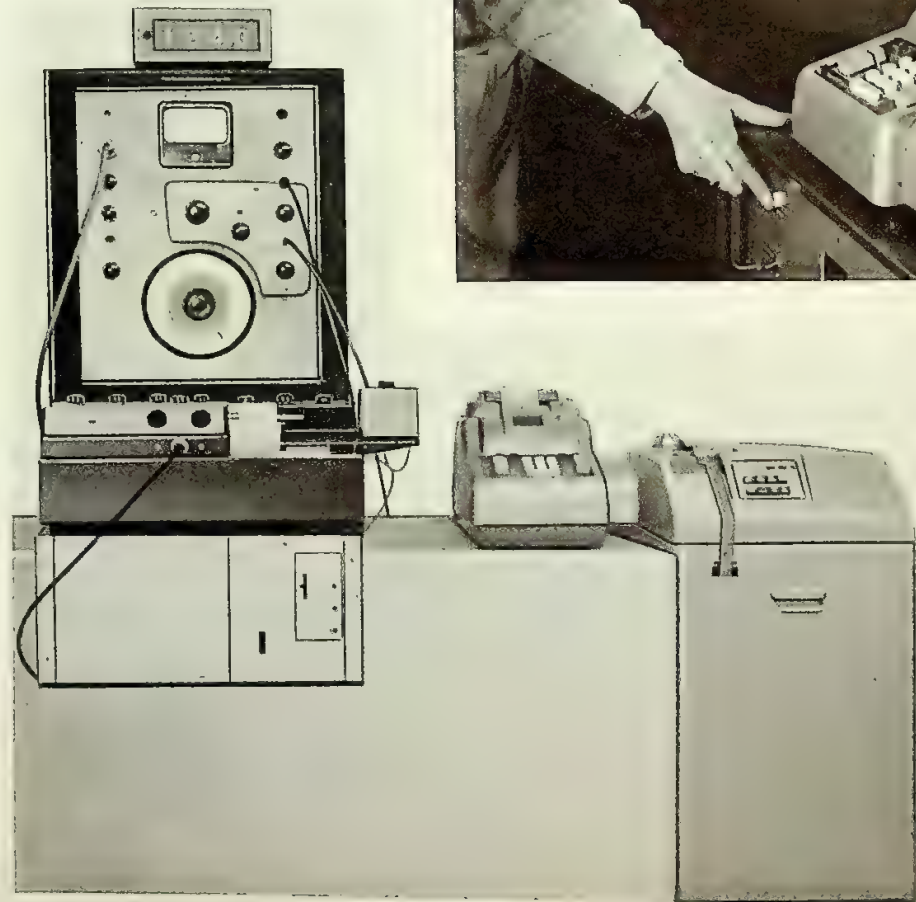
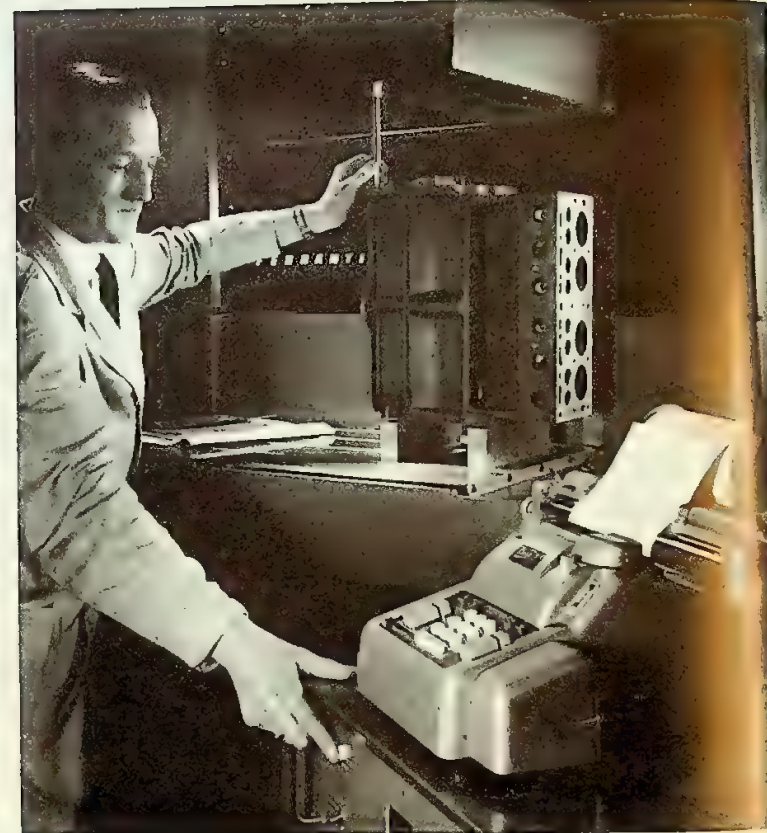
This automatic recording process comprises the first stage of a fully integrated routine if the Addo-X machine is also equipped for output to punched tape or cards. In such case the machine automatically prints the readings and processes them as desired. The values are sent to the tape/card punch for subsequent processing without any supervision or manual work whatsoever.

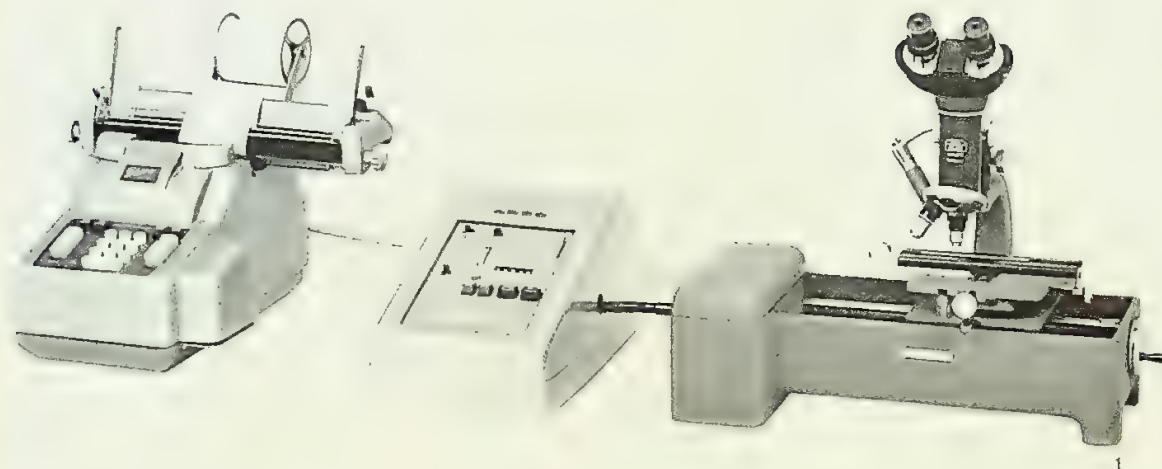
### Addo input tape punch

In many situations, the new Addo input tape punch provides a highly economical alternative to the electromagnetic input used with the Addo-X. If instrument readings and the like are to be recorded continuously on punched tape, and simultaneous legible printout on an adding machine tape or other form of document is not required, the input tape punch provides the simplest and most rational solution. Data to be recorded is fed directly to the tape punch in the form of electric pulses. Coded or uncoded pulses can be used and, when necessary, they are converted to the desired code for 5 to 8-channel punched tape.

Vauxhall Motors' engine factory uses an Addo-X digital printer with electromagnetic input combined with a Ferranti inspection machine for checking finished parts.

Values of acoustic measurements are directly processed by ASEA in a computer. The results of the measurements are recorded automatically by an Addo-X adding machine with Addo card programmed tape punch.



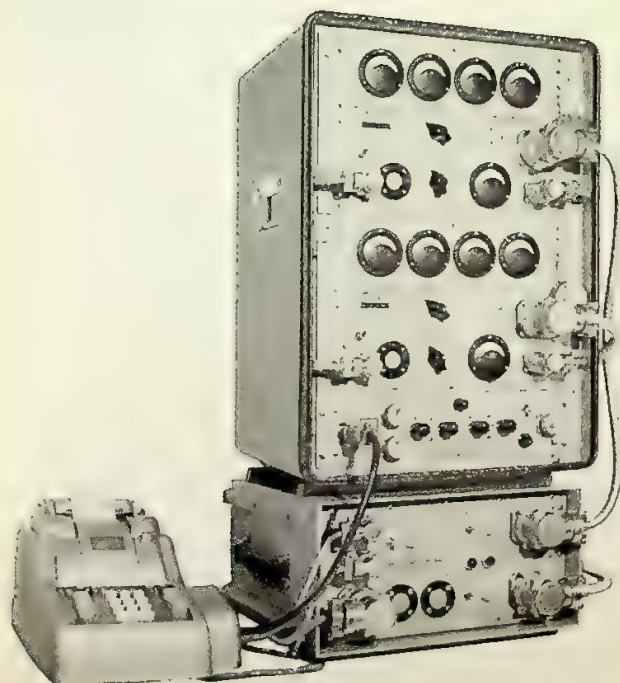


Complete equipment for measuring annual rings in trees; readings are processed and recorded simultaneously. Using this apparatus it is possible to accurately evaluate extensive stands of timber very quickly with regard to age and quality. Illustration 1.

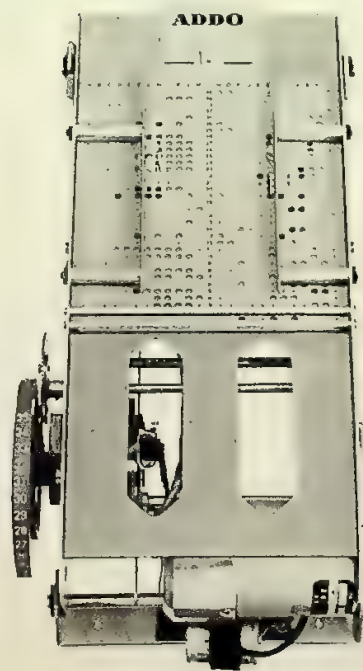
Addo control unit with easily replaceable program cards can be used for controlling machine tools, processes, proportioning installations, etc. Illustration 3.

The Addo punch mechanism which can be converted to accept 5-8 channel punched tapes can be built into various types of data recording equipment and into data transmission terminals.

Addo-X with electromagnetic input connected to a ballistic measuring instrument. Illustration 2.



2



3

Other interesting machines which serve both commerce and industry include those used to perform calculations with minutes/hours and inches/feet, not to mention machines with pin-feed platens to handle snap-apart forms and continuous forms, machines with entry counters built into the registers, etc.



## Advantages offered by ADDO data processing

**The recording of data becomes productive.** It is no longer limited to the mere conversion of information from one medium to another. The Addo-X machine provides a) punched tape and b) adding-machine tape, account card, journal or other desirable document to be used for accounting or statistical work.

**Maximum degree of flexibility.** Replacing the program card — which can be done in an instant — converts the punch for new assignments. The number of programs is unlimited.

**Punch operators require no special training.** The easily-operated Addo-X symmetrical 10-key keyboard permits high-speed punching without delay.

**Positive operational control.** The program card makes certain that the operator follows her instructions properly. If an error is made the Addo-machine is locked automatically.

**Data recorded on compact medium** which is easily moved around both inside and outside of the company.

**Simplified verification.** The accuracy of the punching is guaranteed by zero checks programmed into the routine or by balancing against check totals.

**Fixed or variable word length.** All existing channel systems can be accommodated. Machines that have been delivered can be converted from one system to another quickly and easily right on the job.

**Outstanding flexibility in regard to special codes.** They can be programmed onto the program card thus permitting the machine to operate independently of the selected code system.

If punching work fails to take up the fully day, the Addo-X is always ready for other useful assignments.

The Addo-X with punch features compact overall dimensions and building-block simplicity — the machine and punch are separate units, thus assuring optimum utilization of available space.

Integrated data processing is possible thanks to the fact that the Addo-X machines are also available with electromagnetic input for direct recording of readings from scales, flow meters, etc.



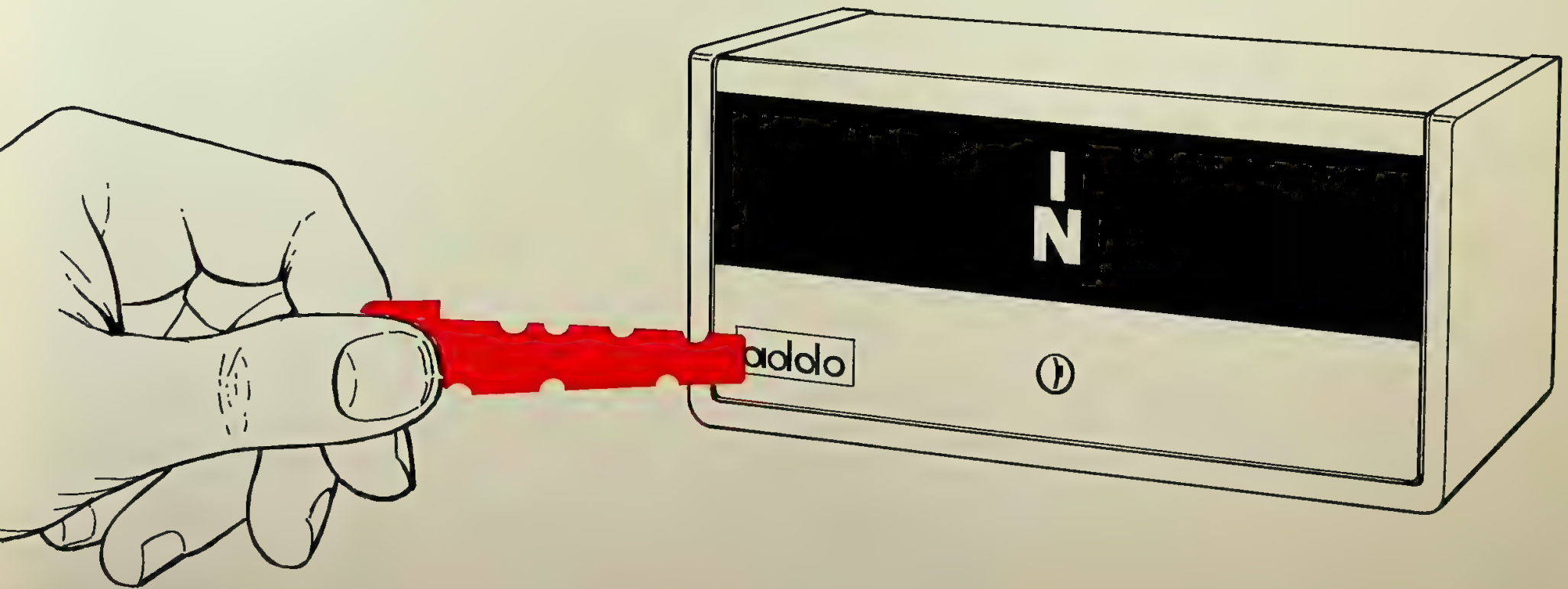
In the majority of applications, punched tape is vastly superior as a data carrier. It is inexpensive, can be carried easily and safely, and requires little filing space. It saves time in computer processing, where read-in is extremely fast and accurate.

# addo-x 990

**KEY**

**DATA COLLECTION  
SYSTEM**

**introduces a new concept in automated payroll  
and job cost accounting applications.**





## The ADDO-X 990 Key Data Collection System

Now, the entire payroll and jobcosting procedures of your company can be automatically integrated into your data processing program with the Addo-X 990 Key Data Collection System.

The KDC 990 consists of

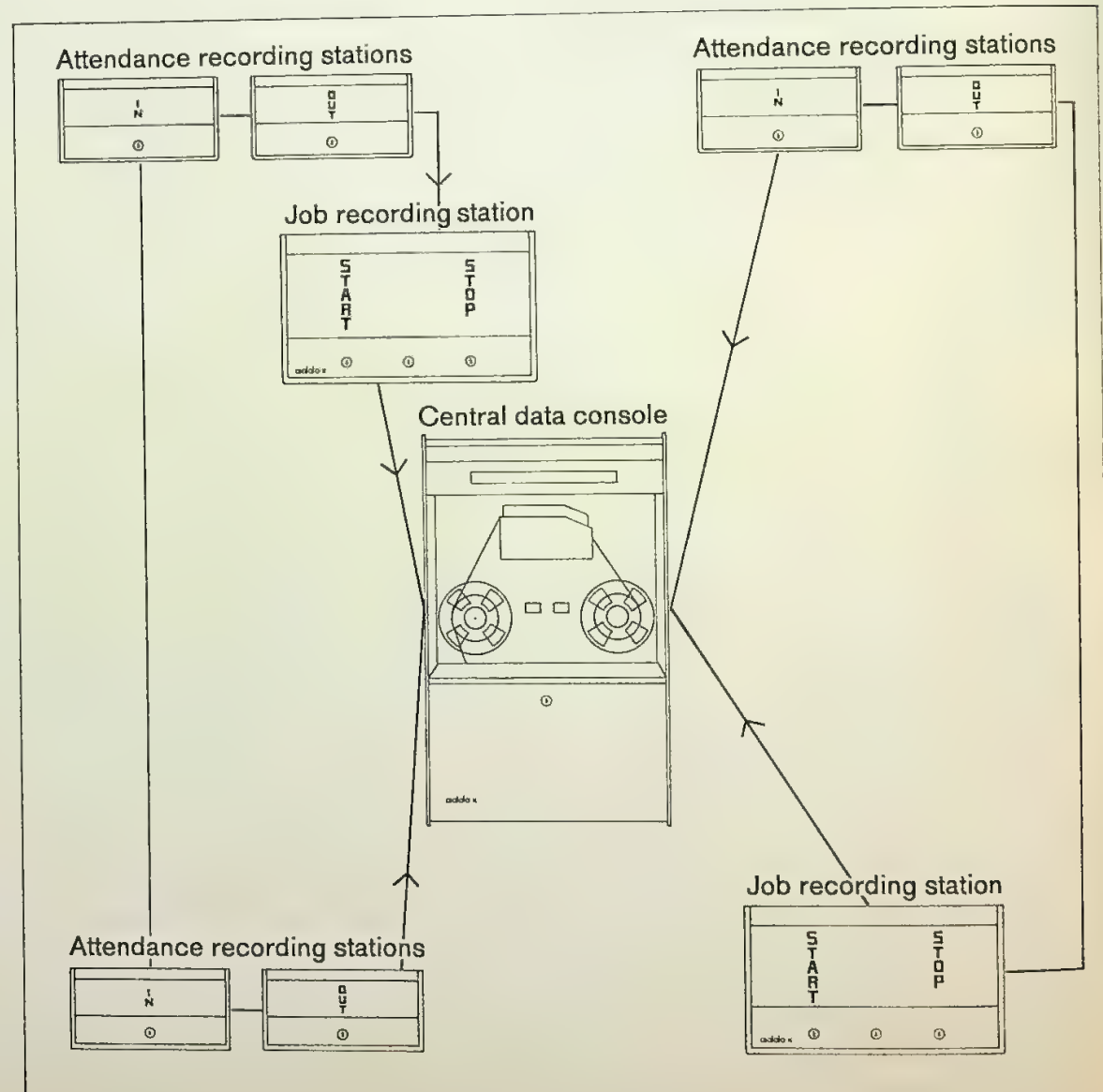
- (A) encoded keys
- (B) any desired number of remote transmitting stations
- (C) variable digit switches for manual entries
- (D) a central data console containing a paper tape punch, clock and all operational circuitry.

Each employee has his own key which is encoded with his number. Separate keys are provided for job cost applications.

The employee inserts his key in the sensor of a transmitting station when reporting to, and upon leaving work. He receives a "GO" signal from the station indicating that the employee number has been transmitted to the central data console where it is punched into tape along with the time and appropriate codes.

Job stations contain multiple key sensors in order to identify job to employee and/or machine. Variable information may be entered by digit switches on the job station. The stations are interlocked to assure all necessary information has been entered prior to the central data console.

Please send for a more detailed description.



# SERVICE AND QUALITY CONTROL

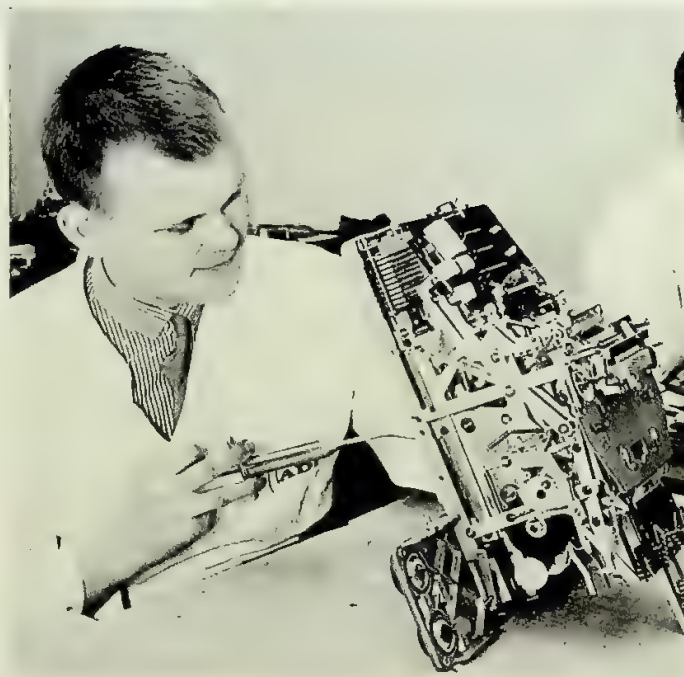


Addo's concern for the customer doesn't end with the delivery of the machine. As an Addo customer you enjoy automatic access to the extensive service organization which only a major company with many years of experience in international distribution and servicing can offer. Addo service operations span a wide range of activities and have, for decades, formed an essential aspect of the overall concept of Addo quality. They include expert no-cost assistance in the planning of improved working areas, the establishment of systems of accounting, estimating, storage, data processing etc., or quite simply the upkeep of a firm's complement of Addo machines by expert servicemen.

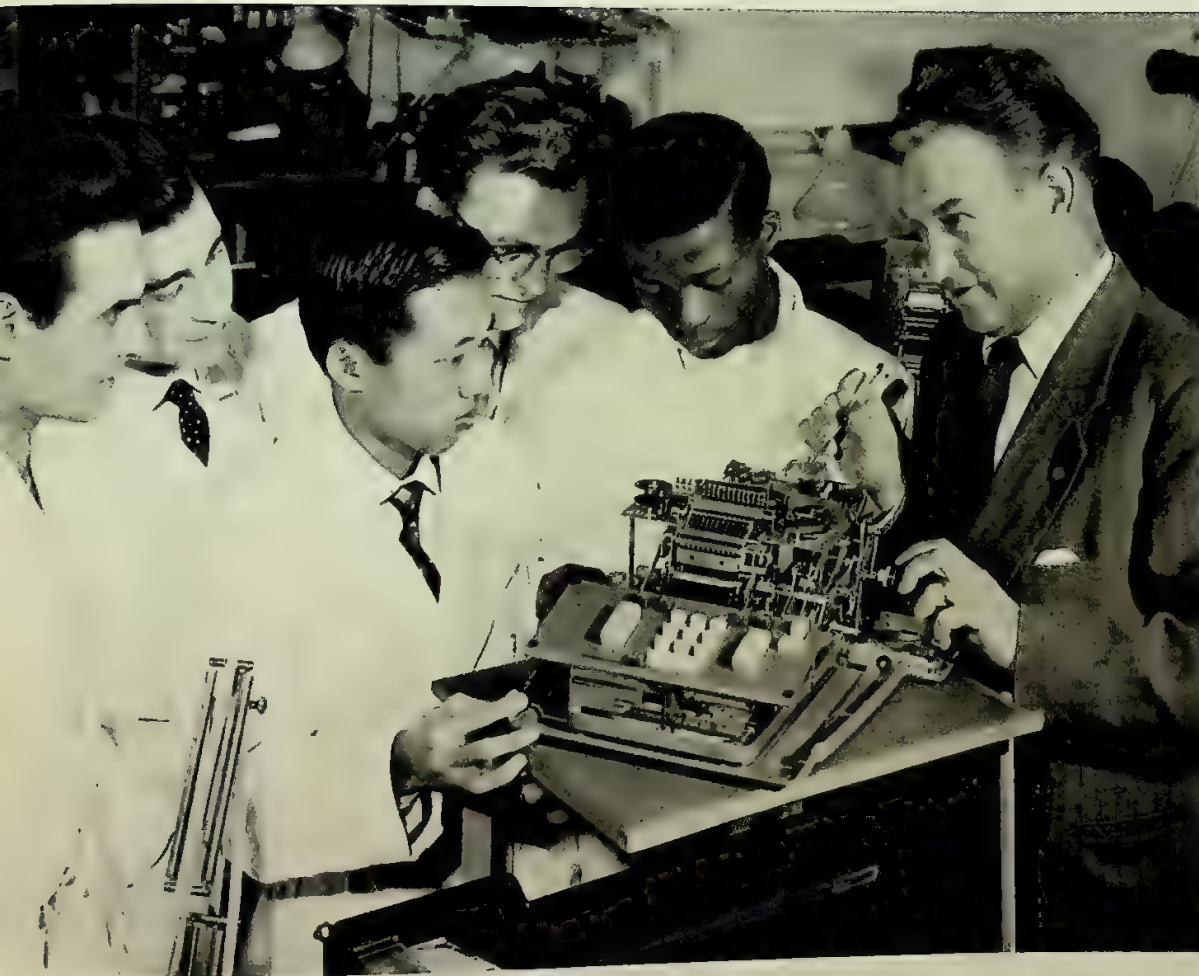
An extensive network of service facilities that includes well-equipped shops and capable craftsmen who have been specially trained at Addo factories ensures that the customer is always provided with convenient access to fast, efficient service on all of his machines.

The Addo service organization extends far beyond Sweden. In every one of the 125 countries where Addo-X already symbolizes top quality and reliability, a wide range of services is offered hand in hand with the sale of Addo machines.

## World famous Addo service



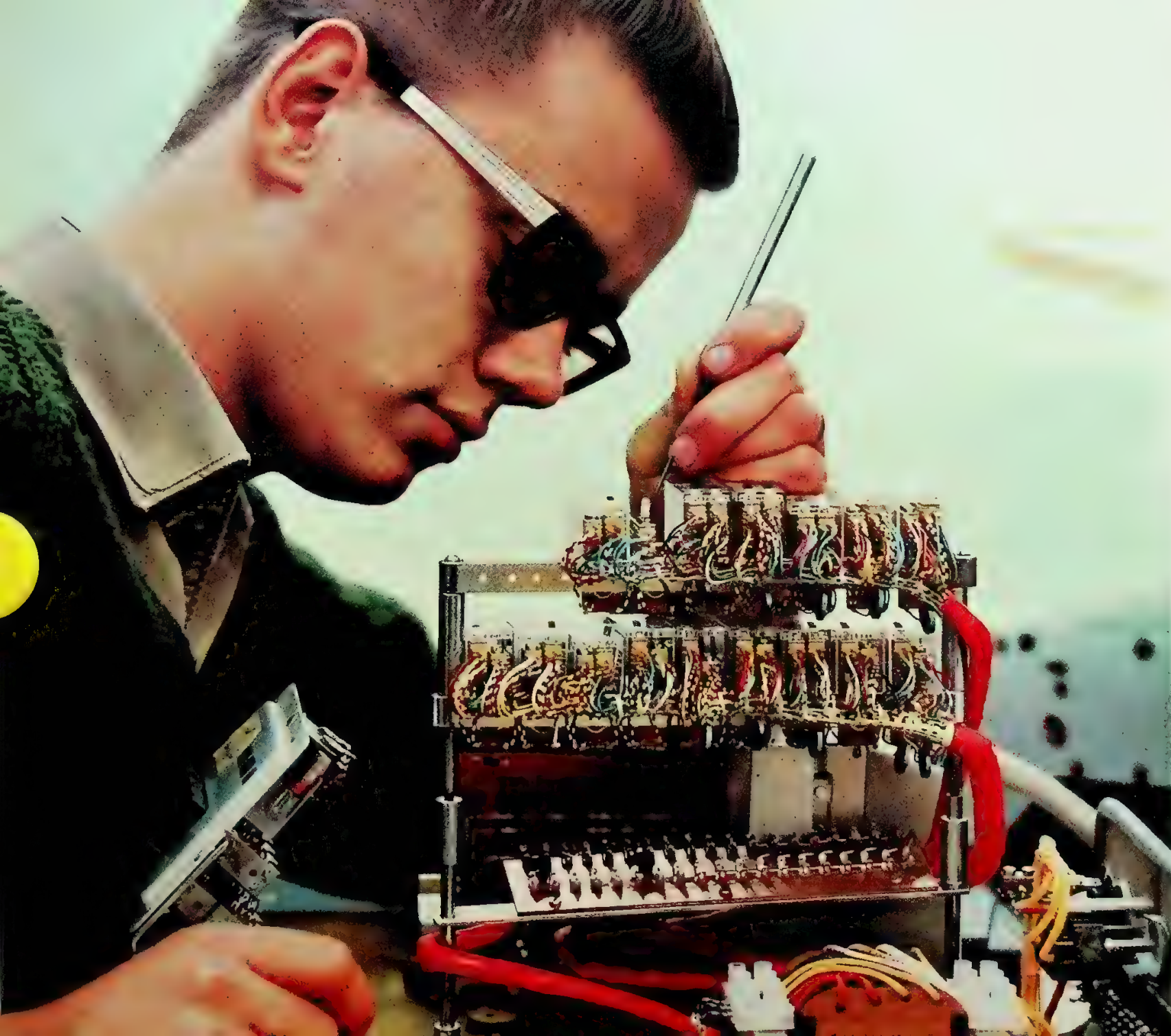
Addo precision turns up again during servicing. Skilled servicemen and tiny grease guns with needle-point tips ensure that each component receives the exact amount of lubricant.



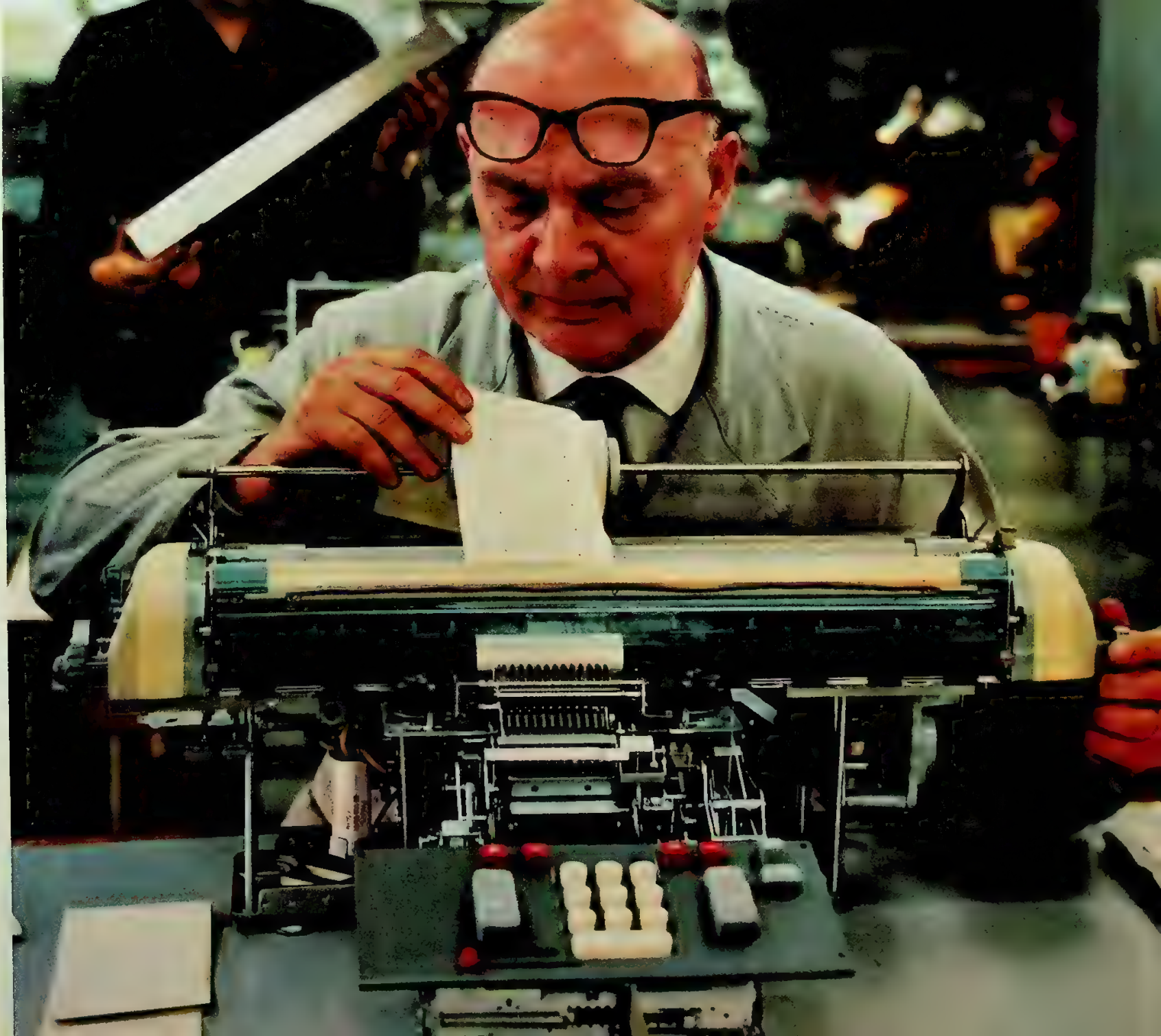
Vast sums of money and unceasing effort keep the vast Addo service organization on its toes. Foreign representatives and mechanics are summoned to the main factory in Sweden regularly to attend practical and theoretical supplementary courses. Trainees are instructed in 10 languages. At present, technical literature (operating instructions, servicing instructions, etc.) are being printed in 13 languages at Addo's own printing office for distribution abroad.



Every soldered connection in the Addo card programmed tape punch is carefully inspected before electrical testing commences.

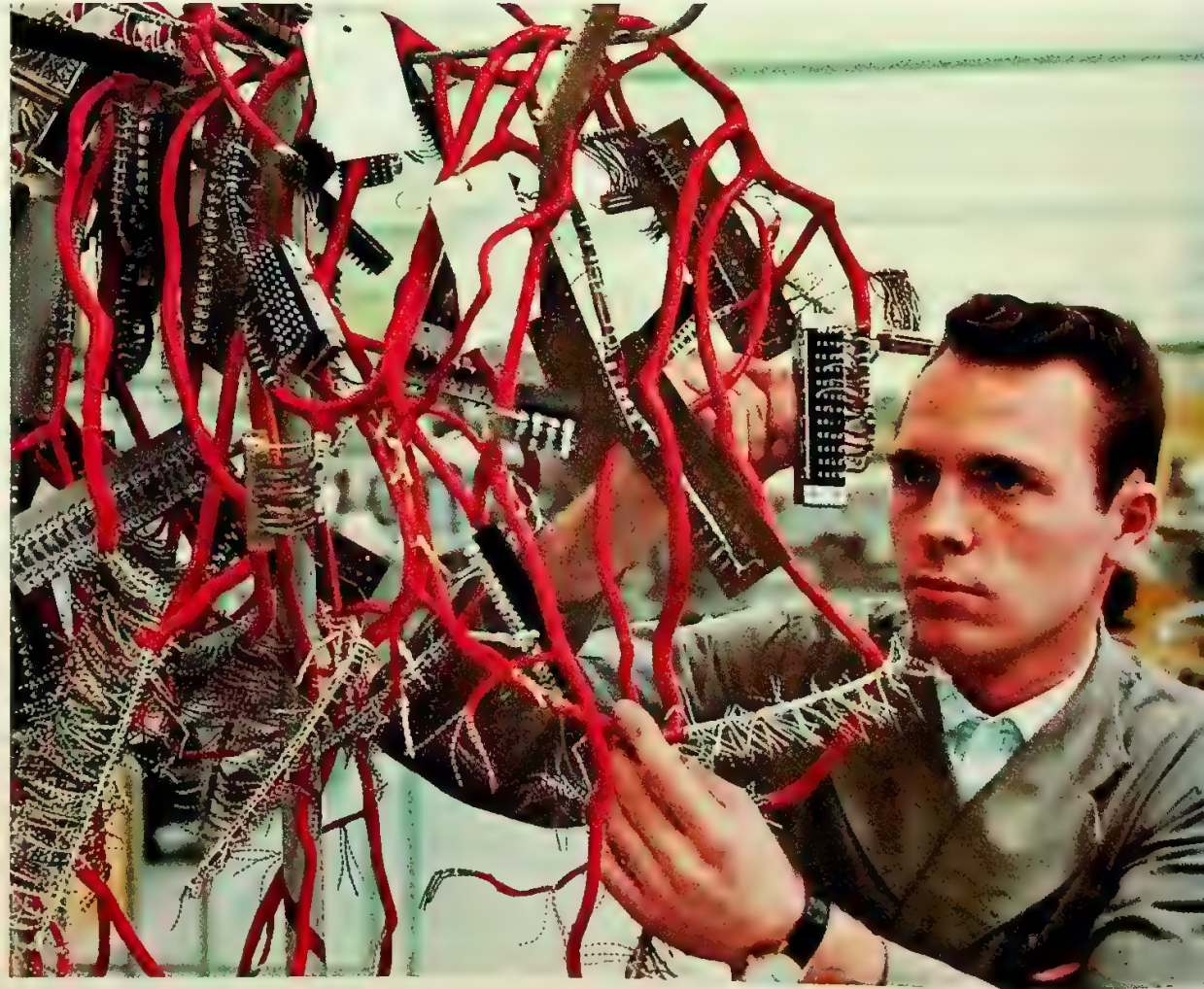


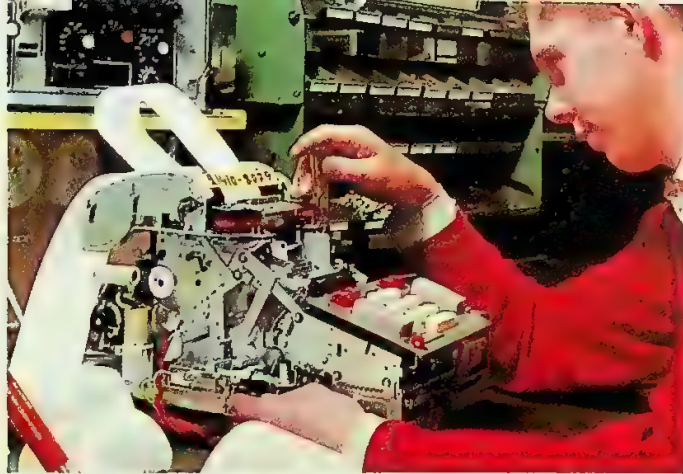
Manual checks are sometimes superior to mechanical testing. Some parts can be checked more satisfactorily by the trained hand and experienced eye than by machinery.





Ready-stitched cable assemblies are carefully inspected before mounting in Addo ADP-products.

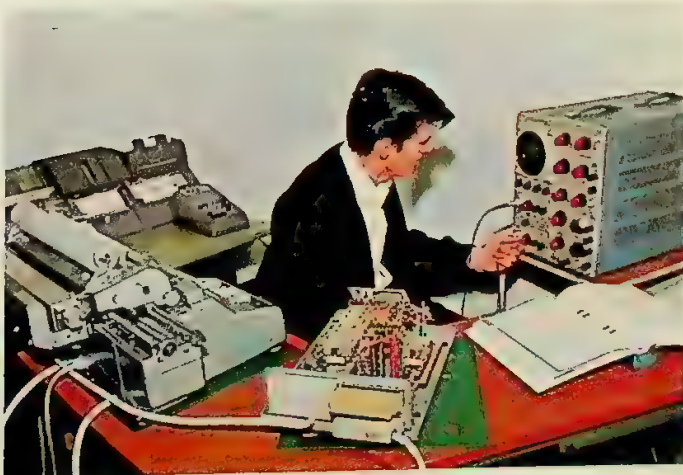




Addo uses special equipment (simulators) of its own manufacture, to satisfy the highest demands as to precision and technical reliability.



Bar stock is machined to form finished Addo machine parts in this large hall containing automatic screw machines.



One of the many control stations at the ADP factory. Relay switching time is measured with an oscilloscope.



Optical inspection and measurement of machine components, an important and constantly recurring task. Tolerances are measured to within 1/25,000 in (0.001 mm) — a fine example of the Swedish awareness of quality.





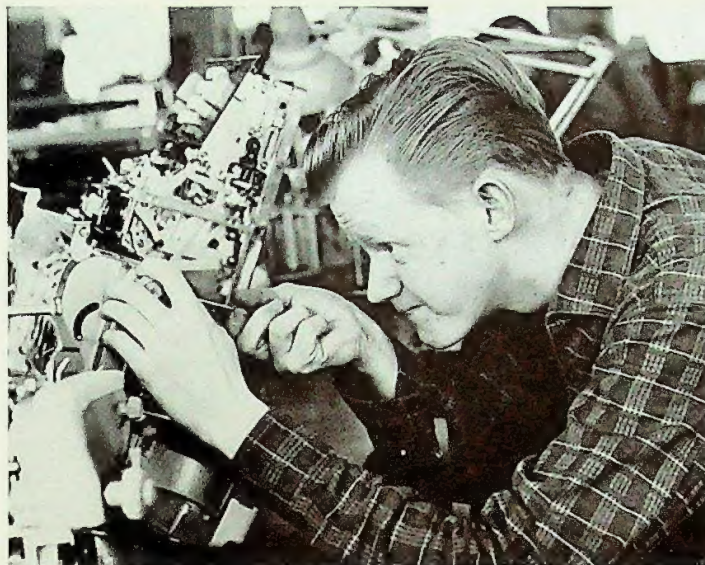
Swedish women show outstanding technical ability. This picture was taken in the Addo design department.



Swedish electric steel — the best in the world — is used for vital components in all Addo-X machines.

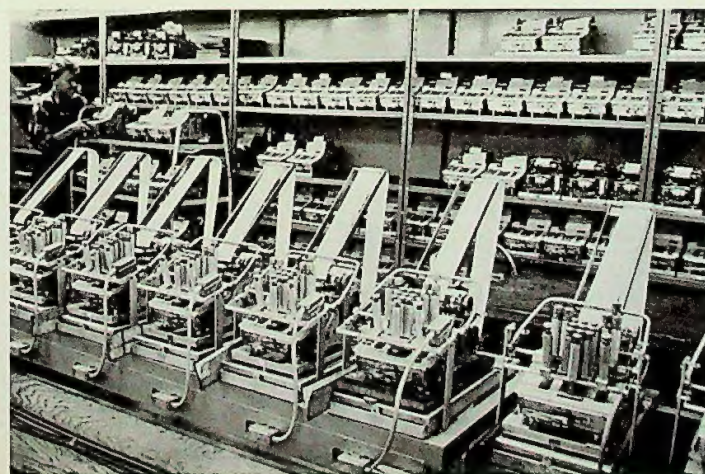


Manual dexterity, accuracy and long-term training are indispensable attributes for those who assemble Addo-X machines.

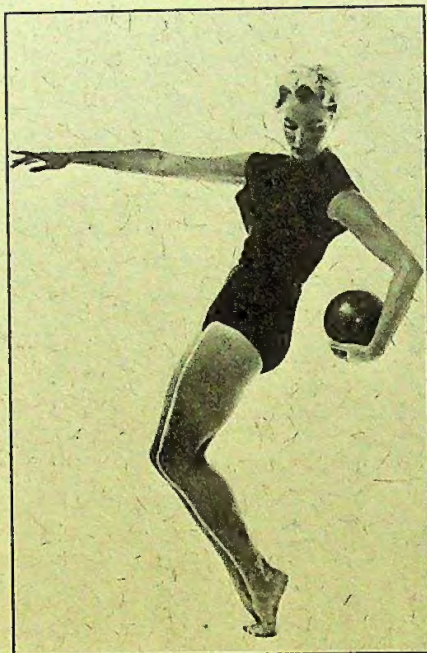


During the manufacture of an Addo-X machine, the most exacting inspection of all takes place in robot equipment with pre-set program, from which no Addo machine can conceal any secrets.

**EACH ADDO-X** must go through the needle-eye of this inspection, before it passes on through the stations for manual control, and finally reaches the packing department for distribution to Addo markets over the whole world.







# **SWEDISH BEAUTIES AND SWEDISH OFFICE MACHINES HAVE CONQUERED THE WORLD**

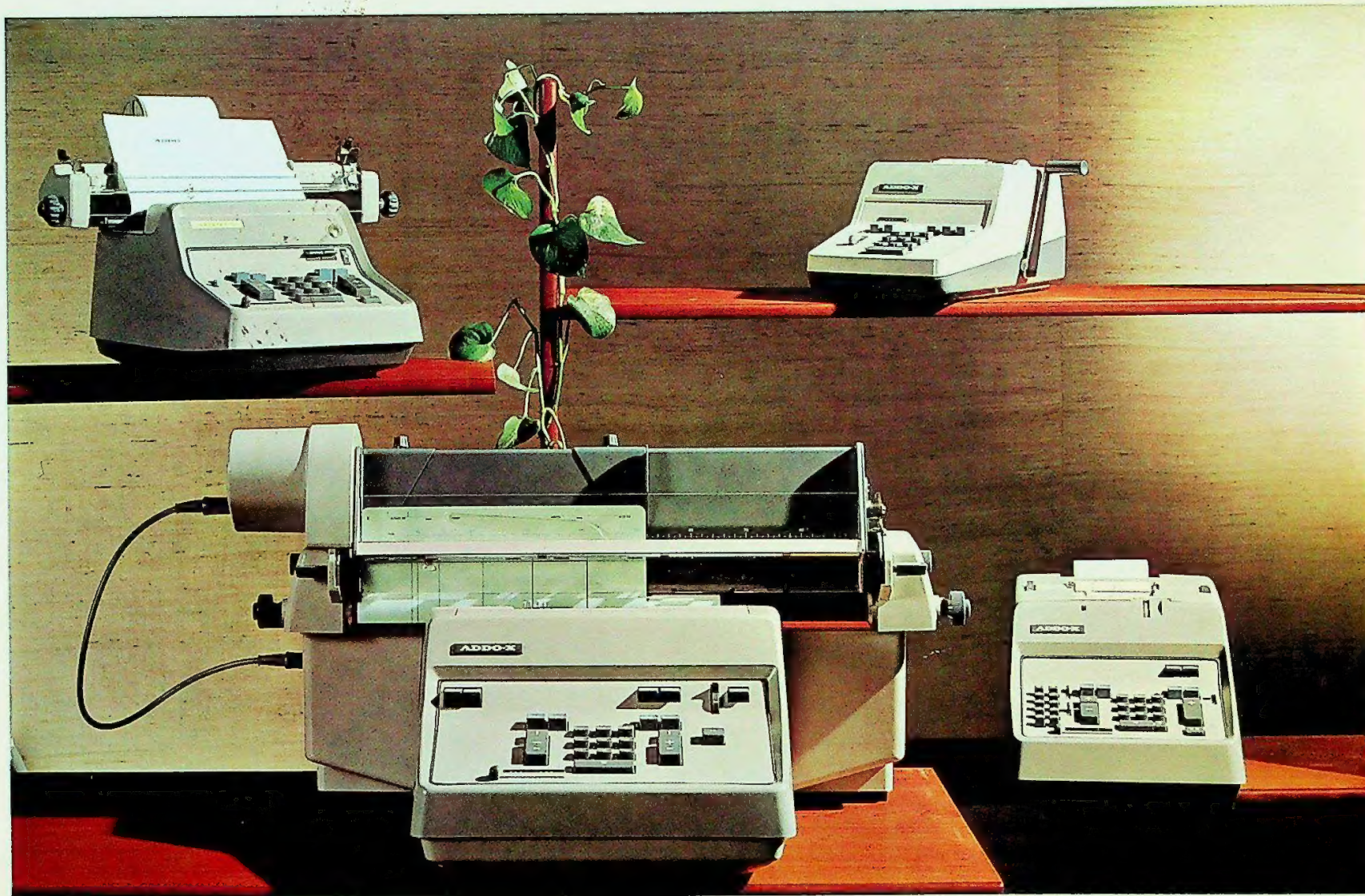


In Addo's international export advertising, Addo girls have spread the word about Swedish quality products for many years. And for many millions of readers they have become almost as familiar as Addo-X machines. There were girls in love with Addo-X, girls who played with doves and fish, girls who exercised with medicine balls and girls with musical instruments.

As a concluding vignette we show you a selection of Addo girls and in so doing tie in with the start of our Addo exposition — with Addo as an international enterprise in the service of the office.







ADDO-X Inc.,  
300 Park Avenue  
NEW YORK, N.Y. 10022

ADDO-X Sales Corporation  
6549 West North Avenue  
OAK PARK  
(Chicago) Ill. 60302

WESTERN ADDO-X Inc.,  
3339 Temple Street  
LOS ANGELES, Calif. 90026